

N^o 5965



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COMPLETE SPECIFICATION.

Improvements in or relating to Machines for Applying Covers to Books, Pamphlets and the like.

I, GEORG SPIESS, of 45, Rathausstrasse, Leipzig-Reudnitz, Germany, Engineer, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

5 This invention relates to pamphlet covering or like machines of the kind in which individual sheet piles are carried preferably by horizontal conveyors on to a rotatable carrier by the displacement of which they are tipped up on their back and in this position are allowed to drop or are conveyed downwardly into
10 contact with the cover to be applied thereto. In these machines it is important for the successful operation that the individual sheets which go to make up a pile be presented to the glue coated cover in such manner that each and every sheet will be uniformly brought in contact therewith so as to be securely glued thereto.

Now according to this invention it is proposed to attain this object by the
15 provision at the end of the sheet feed conveyor of oscillating plates or arms which are journaled so as to be brought by oscillating movement alternately between the conveyor bands into the plane of the path of the sheet piles and then to be erected vertically or approximately so if desired, in conjunction with a plurality of consecutively actuated pairs of feed rolls by which the sheet
20 piles as they drop from their oscillating carriers, are fed in downward direction individually first to a glue coated cover temporarily supported beneath the first pair of feed rolls and then with the cover folded thereon, under constant lateral compression to the finishing mechanism, as will more clearly appear from a description of the accompanying drawings, in which:

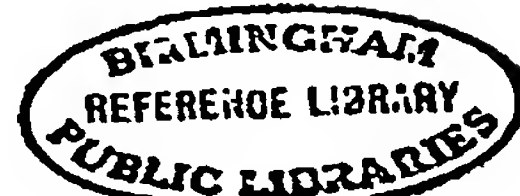
25 Fig. 1 is an elevation, Fig. 2 a lateral view of the machine, and Fig. 3 is a lateral view of the delivery device of the same.

The individual sheet piles A are fed forward by a conveyor B at certain predetermined or definite intervals.

According to this invention plates or arms C are rotatably arranged at the
30 end of the conveyor B so as to be capable of being lowered between the conveyor bands and thereby to be brought into the path or track of the sheet piles. As soon as a pile A arrives above these plates C the latter are tripped up into the vertical position indicated in dotted lines by being oscillated about their pivots, for instance, by an eccentric which through appropriate links is
35 coupled to the shaft upon which the plates are carried whereby the pile is caused to drop vertically on to a cover D which previously has had its back coated with glue and has been placed on a supporting table E¹, E². In this action the freely dropping sheets of the pile A are individually seated on the glued back of the cover thereby ensuring a sound connection with the glued
40 part. In their movement the dropping paper piles are guided between vertical walls F and G. For the completion of the pamphlet, roller pairs may in a known manner be used by which the paper pile together with the glued-on cover is carried down and finally the cover is caused to be pressed against the

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paper pile. To this end, in the example shown, the rollers H and J are arranged above the table E¹, E², the roller H being movable towards the roller J. This may be effected with the aid of a bell crank lever K actuated by a connecting rod L which by means of a roller N is guided on a cam disc M arranged on the driving shaft. By means of these rollers the paper pile A 5 after being seated on the cover D is caused to move downward with the cover folded thereon. Beneath the passage in the table are arranged further roller pairs O, P and Q, R, of which O and Q are relatively movable with regard to the stationary rollers P and R respectively, similar to the rollers H and J.

. Now the arrangement is such that the rollers H, O and Q are consecutively 10. given a lateral displacement and that only those rollers are always operative which for the time being are to act on the pamphlet. The movement of the rollers O and Q is effected by similar means, namely, by bell crank levers K¹, K² with the aid of connecting rods L¹, L² driven by cam discs M¹, M² 15 respectively, which latter are mounted on the same driving shaft that carries the cam M. In this way the descending pamphlet is first compressed between the rollers O, P and as it advances between the bands S, T it is brought between the rollers Q and R by which it is delivered to a support U. At this point the individual covered paper piles or pamphlets are finally compressed between a movable plate or jaw V and a stationary counter-plate or abutment V¹. 20

In the case of heavy and thick paper piles and weak or thin covers, there is a danger that the dropping paper piles pull down the covering D before the rollers H and I have approached one another. To counteract this, a movable plate or obturator W is arranged below the passage in the table. This plate 25 may, for instance, be carried in guides on one of the table leaves E¹ so that it may be advanced in order to cover the passage between these table parts. In this case the paper piles in dropping on to the back of the cover D press the latter against the plate W at the same time themselves assuming an upright position whereby the back of each sheet is reliably brought into contact with a glued part of the back of the cover. The surfaces of the plate W may be 30 roughened, corrugated or ribbed to cause the glue on the back of the cover more intimately to penetrate the individual backs or back edges of the sheets.

After thus bringing the paper piles against the plate W, the latter is withdrawn, for instance, by means of a cam actuating a connecting rod L³, the end of which is attached to the plate W by a lever X so that the passage in the 35 table is opened.

At the point at which the descending paper pile is brought to rest, that is to say, at the point U a presser band Y guided over rollers Z is so arranged as to travel in the direction of the back of the cover and thereby to exert a stroking action on the back longitudinally in order again to force the glue to 40 penetrate between the adjacent edges of the individual sheets. Moreover, this stroking arrangement ensures a uniform distribution of the glue at the connecting points and the band Y used for this purpose may consist of rubber or other elastic material.

Having now particularly described and ascertained the nature of my said 45 invention, and in what manner the same is to be performed, I declare that what I claim is:—

1. A pamphlet covering or like machine, comprising in combination a sheet pile conveyor, a supporting table upon which a glued pamphlet cover is carried, an oscillating plate or arm adapted alternately to be brought into a horizontal 50 and a vertical position and thereby to receive and to remove a sheet pile from the conveyor and to direct it downwardly between a pair of feed rolls on to the glue coated cover and through a passage in the supporting table into a downward passage between additional feed rolls arranged so as to compress the pile with the cover folded thereon laterally in its downward path to the finishing 55 mechanism.

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2. In a machine of the kind claimed in Claim 1, supporting the glue coated back of the cover in the path of the pile in an opening of the supporting table by means of an upsetting plate or obturator arranged in guides on or below the table so as to be movable across the opening therein.
- 5 3. In a machine of the kind claimed in Claim 1, arranging the feed rollers in pairs, so that one roller of each pair is adapted automatically to be displaced towards the stationary roller, the movable roller of each pair being connected to a cam and the cams for the individual connections being actuated by a common shaft, substantially as described.
- 10 4. In a machine of the kind claimed in Claim 2, the use of an obturator having its supporting face for the cover roughened, ribbed or corrugated in order to enhance the distribution of the glue between the adjacent sheet edges.
5. A machine for applying covers to books, pamphlets and the like arranged substantially as described and shown in the accompanying drawings.
- 15 Dated this 9th day of March, 1914.

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[This Drawing is a reproduction of the Original on a reduced scale.]

